



Standard Guide for Modular Coordination of Clay and Concrete Masonry Units¹

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This standard has been approved for use by agencies of the Department of Defense.

INTRODUCTION

This guide is issued as a standard for reference in design, specification, manufacture and construction using metric (SI) or inch-pound units. The SI preferred dimensions are based on the internationally recognized building module of 100 mm. The inch-pound preferred dimensions are based on the U.S. recognized building module of 4 inches. Dimensions given in millimeters (mm) apply to units designed for SI use. Dimensions given in inches (in.) apply to units designed for inch-pound use.

This guide is intended to minimize the potential field cutting of units due to the layout requirements of the construction and contract documents. It is not the intent of this guide to restrict or limit the production of units not conforming to modular dimensional coordination.

1. Scope

1.1 This guide covers unit sizes for clay and concrete masonry units laid in mortar for use in buildings and building systems designed in accordance with the principles of modular coordination. Specifically it covers:

- 1.1.1 Sizes of full-size units and supplementary units.
- 1.1.2 Joint thicknesses.
- 1.1.3 Specified dimensions.

1.2 Permissible variations from specified dimensions of masonry units vary with intended use, project requirements and type of product. Thus, permissible dimensional variations for masonry units should be obtained from the appropriate ASTM specification. See Section 2 for a listing of appropriate specifications.

2. Referenced Documents

2.1 ASTM Standards:

- C 43 Terminology of Structural Clay Products²
- C 67 Test Methods of Sampling and Testing Brick and Structural Clay Tile²
- C 140 Test Methods of Sampling and Testing Concrete Masonry Units²
- E 577 Guide for Dimensional Coordination of Rectilinear

- Building Parts and Systems³
- E 631 Terminology of Building Constructions³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 For descriptions of terms not listed in 3.1.2-3.1.12 see Terminology C 43, the Terminology section of Guide E 577, or Terminology E 631.

3.1.2 *coordinating dimension*—a preferred modular dimension for masonry or masonry openings coordination, including allowances for standard joint thicknesses. (For example, vertical coordination based on masonry units with three courses equal to 200 mm or 8 in.) See Fig. 1.

3.1.3 *grid line*—a line of the modular (100 mm or 4 in.) grid, used for referencing of building dimensions in design and construction, normally occurring as centerlines in modular coursing and as coordinating lines for masonry and masonry openings.

3.1.4 *height*—vertical dimension of masonry units or masonry, measured parallel to the intended face of the unit or units. See Fig. 2.

3.1.5 *length*—horizontal dimension of masonry units or masonry, measured parallel to the intended face of the unit or units. See Fig. 2.

3.1.6 *nominal dimension*—a dimension greater than the specified (standard) dimension by the thickness of one mortar joint, but not more than 13 mm or 1/2 in.

3.1.6.1 *Discussion*—Standard mortar joint thicknesses are 6 mm (1/4 in.), 10 mm (3/8 in.), and 13 mm (1/2 in.).

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² *Annual Book of ASTM Standards*, Vol 04.05.

³ *Annual Book of ASTM Standards*, Vol 04.07.

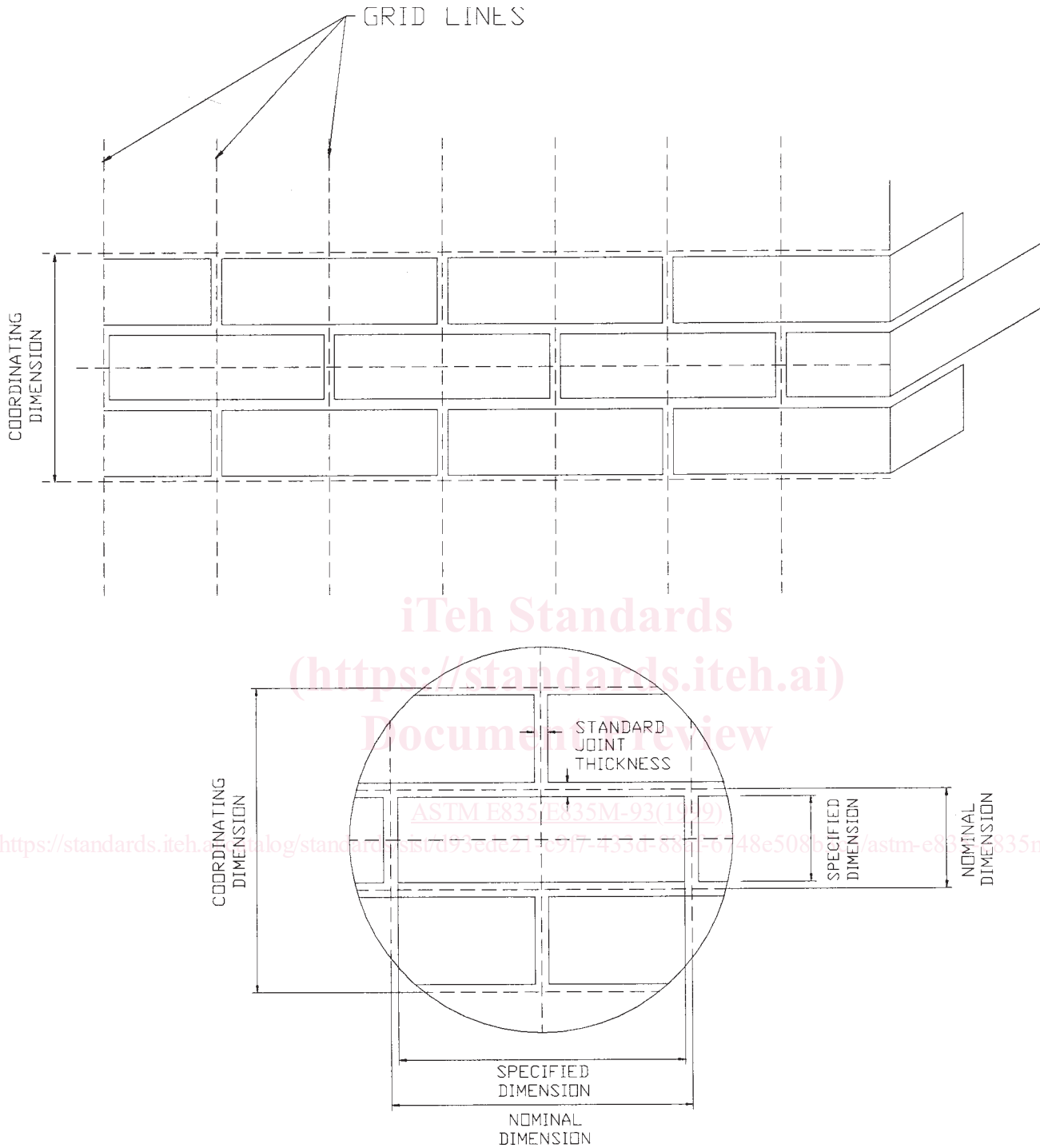


FIG. 1 Coordinating, Nominal, and Specified (Standard) Dimensions for Masonry Units

3.1.7 *nominal size*—the measure of layout of a single masonry unit, taken between centerlines of mortar joints, which is equal to the specified unit size plus the thickness of one mortar joint. See Fig. 1.

3.1.8 *specified (standard) dimension*—the nominal dimension less the thickness of a standard mortar joint; that is, the net dimension of the masonry unit. See Fig. 1.

3.1.9 *specified size*—the average of measured dimensions of the masonry units determined in accordance with Test Methods C 67 or Method C 140, excluding standard joint thickness.

3.1.10 *supplementary unit*—an additional masonry unit used to provide modular (100 mm or 4 in.) flexibility.

3.1.11 *thickness (width)*—horizontal dimension of masonry units or masonry measured perpendicular to the intended face of the masonry unit or units. See Fig. 2.

3.1.11.1 *Discussion*—The term *thickness* is used with clay products as the dimension perpendicular to the face of the wall. The term *width* is used with concrete masonry units as the dimension perpendicular to the face of the wall.

3.1.12 *width*—see *thickness*.